NorthLink WA Northern Section: Annual Project Sustainability Report 2020

This annual report covers the period from 1/07/2019 to 30/06/2020. A previous annual sustainability report was prepared for the project for 2018 financial year.

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About this Report

This report has been prepared by the NorthLink WA northern section project team on behalf of Main Roads Western Australia. This report forms part of Main Roads' annual sustainability reporting which is integrated into its Annual Report. The report content is prepared in accordance with GRI principals. Main Roads processes determine which aspects are Material and to be reported on by the project.

This report includes information which will be used as part of the project's Infrastructure Sustainability Council of Australia rating.

Introduction

The NorthLink WA northern section team is committed to constructing a free-flowing dual carriageway between Ellenbrook and Muchea to improve safety and efficiency for road users. As a team, the northern section has committed to promoting the efficient use of resources through the reduction of energy and waste produced, recycling of materials in all activities, engaging with relevant stakeholders and community representatives to build strong relationships.

The project team wants to ensure it leaves a lasting legacy through minimising environmental impact, revegetating rehabilitation areas as soon as is reasonably practicable, procuring Western Australian goods and services and achieving an excellent rating for both the Design and As-built phases of the project under the Infrastructure Sustainability Council of Australia's rating program.

Highlights

Sustainability Metric	Highlight
Use of recycled materials	70,000 tonnes of crushed glass have been incorporated into general fill and diverted from landfill
Community involvement	Quarterly meetings with the Construction Reference Group

Indigenous partnerships	Exceeding targets set for Indigenous personnel employed on the project.
	The Industry Participation Plan sets the following targets during construction:
	• Employment of persons of known Aboriginal decent as direct labour or subcontract labour
	  o Target – 6 persons
	  o Stretch target – 8 persons
	• Contract value attributed to subcontractors who are Aboriginal business
	  o Target – $2.3 million
	Stretch target – $3.5 million

Revegetation and landscaping	366,470 tube stock/cell stock and 29,830 feature trees were planted. Screening tube stock trees – 90% complete Park land tub stock trees – 37% complete Wetland tube/cell stock – 91% complete Upland tube/cell stock – 71% complete

Local industry participation (Western Australian)	100% local industry
Salvage of plants	100% of grasstrees used in revegetation have been salvaged from site clearing.
Provision of active transport options and cycling infrastructure	Completed full length Principal Shared Path incorporated into final design, separated from the main alignment.
Local community disruption	Truck movements diverted from public roads by sourcing local fill material on, or next to, the project alignment
Indigenous employment opportunities	Target of $2.3 million contract value set for Indigenous businesses

Overview

CPB Contractors has been contracted by Main Roads WA to provide all investigation, design and construction required to construct approximately 20 km of the highway between Maralla Road, Ellenbrook and Great Northern Highway, Muchea and approximately 3.5 km of the Brand Highway deviation

The northern section involved the construction of a free-flowing dual carriageway between Ellenbrook and Muchea, resulting in a fit-for-purpose section of this national highway with four lanes taking the majority of heavy traffic away from Great Northern Highway. It is expected to reduce travel times and congestion, and provide significant productivity benefits to the economy, industry, motorists and local communities.

Initial scope of works for this section only included a single carriageway and at-grade intersections at Stock Road, Neaves Road and Muchea. Competitive market conditions enabled the expanded scope of works to be constructed within the current project budget allocation.

Key construction works include:

- dual carriageway between Maralla Road and Muchea.
- interchanges at Stock Road, Neaves Road and Brand Highway.
- deviation at Brand Highway.
- flyovers at Muchea South Road, railways and Ellenbrook.

The Project website can be found at:
https://project.mainroads.wa.gov.au/northlinkwa/about/Pages/northern.aspx

Several objectives and targets have been set by the Project, including the following:

Objectives	**Targets**	**FY 2019-2020 Performance**
Focus the Group's efforts on managing sustainability risks and opportunities, enhancing business performance and supporting the long-term interests of the Group.	Project risk register reflects current sustainability risks & opportunities tracked. Sustainability risks and opportunities reviewed monthly.	Risks and opportunities updated in risk register and assessed monthly in work packs.

Promote a culture of accountability for sustainability outcomes and improve the sustainability knowledge and skills of employees.	Implement monthly sustainability meetings & knowledge share opportunities to achieve Man-6 Level Three	Meetings held monthly
Integrate consideration of environmentally and socially responsible sourcing and governance factors into the Group's operating and procurement processes and seek opportunities to collaborate with the supply chain to drive innovation and create mutual value.	Implement CPB procurement policy and identify at least one eco-labelled product	Reinforced steel bar and PVC pipe for electrical conduit have an environmental product declaration.
Drive the efficient use of resources and continual innovation in the delivery of projects.	Liaise with MRWA and industry partners and deliver at least three state first innovations.	The Project has achieved: - 70,000 tonnes of crushed glass in fill - Automated lighting at RTAA - Use of a paver for laying basecourse - Approval of 20% RAP design
Support the adoption and delivery of appropriate industry rating schemes and standards that drive sustainability outcomes for clients.	Achieve 'Excellent' ISCA rating for the project	Current score estimate is 75.
Encourage initiatives and successfully deliver projects that meet client expectations, provide value for money, and leave net positive legacies for the CIMIC Group, our clients, users, the environment and communities.	Hold monthly sustainability leadership team meetings to encourage initiatives.	Meetings held monthly
	Identify and deliver at least one opportunity where enhancement of environmental or social values is realised.	Revegetation opportunities enhance native flora in the area
Enhance the Group's resilience to climate change.	Complete climate change assessment for design and identify at least three energy saving opportunities on the project.	Climate change risk assessment completed

Overall approach to Sustainability

CPB is the CIMIC Group's construction company, who have long embraced a sustainable approach to conducting business. Information on this, as well as the Sustainability Policy, can be found at:

https://www.cimic.com.au/our-approach/sustainability

Sustainability is being managed through the project Sustainability Management Plan and regular sustainability leadership team meetings (with key project personnel, Main Roads Western Australia and APP Arcadis – the Independent Certifier). The project has assigned a Sustainability Manger, and currently has five full-time Infrastructure Sustainability Accredited Professionals (ISAPs) working on the project, with ongoing support provided by the CPB Contractors' Business Unit and CIMIC Group's engineering business EIC Activities.

On the NorthLink WA northern section, CPB Contractors is seeking to achieve an 'Excellent' rating for both the Design and As-Built stages of the project under the Infrastructure Sustainability Council of Australia's rating scheme. The Project has been registered for both phases of the rating.

The project submitted the design rating in January 2020 and received round one feedback from the verifiers in March 2020. The second-round design rating submission addressing all comments is scheduled to be submitted in July 2020. A lead rating of 75 points is anticipated. The As-Built rating is expected to be submitted in late 2020.

Environmental Aspects Performance

At a glance

Aspect	Year to 30 June	Project Total
Clearing planned (ha)	0	157.56
Actual clearing to date (ha)	0	157.56
Rehabilitation/revegetation planned (ha)	203	225
Actual rehabilitation/revegetation to date (ha)	203	225
Environmental offset via Monetary contribution actual ($)	NA	NA
Total Water Consumption to date (kL)	214,707	1,908,550
Total GHG emissions (scope 1 & 2) to date (t CO_2-e)	4,811	22,236
Total energy consumption to date (mj)	67,757,800	313,158.000
Total quantity of recycled content used in project (t)	1,658.49	2,840.75
Total imported materials used in project (t)	3,270,012	15,924,468
Total waste generated by project (t)	185,010	661,259

Environmental context

The main environmental approvals that the northern section is constructed in accordance with is Ministerial Statement 1036, issued under the *Environmental Protection Act 1986*.

Ecology

Pre- and post-development impacts (including offsets) have been calculated and assessed in accordance with the Environment Institute of Australia and New Zealand (EIANZ) Draft Ecological Impact Assessment Guidelines, as undertaken by an ecologist.

Assessment of the ecological value of the project area prior to construction is based upon the baseline survey information provided in the PER document.

Key considerations relevant to the pre-development ecological value assessment of the project area were the presence of:

- 12.8 ha of intact native vegetation, of which approximately half is in very good to excellent condition
- Portions of five CCWs
- Critical habitat for Grevillea curviloba subsp. incurva and Darwinia foetida
- Foraging habitat for Carnaby's Black-Cockatoo
- Foraging habitat for the Forest Red-tailed Black-Cockatoo
- 349 potential Black-Cockatoo breeding trees (of which only three had suitably-sized hollows).

Taking into consideration the key ecological impacts and proposed rehabilitation and offsets, an ecologist concluded that the NorthLink WA Northern Section will result in ecological value being enhanced by greater than 20%.

The project (and MRWA) will ensure this by undertaking:

- Site rehabilitation using native species
- Securing of offset sites for affected vegetation communities and habitat types.

Water Resources

The major surface water feature intercepted by the northern section is Ellen Brook, which is to be bridged at two locations. A Beds and Banks Permit has been issued by the Department of Water and Environment Regulation (DWER) for this purpose.

The Ellen Brook catchment is prone to inundation in the winter through rising of the watertable and waterlogging on surfaces with low permeability.

Groundwater is abstracted for construction purposes (in accordance with 5C licences issued by DWER) via a series of bores drilled in accordance with DWER supplied 26D licences. No surface water is used for construction.

Environmental Management

The Project's environmental management plan (EMP) is established in accordance with CPB Contractors' 'The Way We Operate' framework and is the key document that integrates environmental requirements and client environmental requirements during project delivery.

The EMS is based on the requirements of the CPB management system and has been specifically tailored to ensure compliance with MRWA's additional environmental requirements. The Project Management Plan for the northern section provides more detail about 'The Way We Operate' and the process adopted to deliver against overall MRWA requirements.

An environmental management representative (EMR) has been nominated for the northern section. The EMR, or an appropriate delegate, is on-site at all times when activities associated with construction activities are taking place.

In addition to specifying the day-to-day environmental management of a project, the EMP details activities to be performed to deliver continual improvement in environmental performance.

Continual improvement is achieved through constant measurement and evaluation, audit and review of the effectiveness of EMP and adjustment and improvement against project environmental outcomes, and CPB Contractors' EMS.

The EMP also includes environmental sub plans for significant environmental hazards, and environmental sub plans for other environmental hazards. As with all environmental hazards, significant environmental hazards have been identified through the review and analysis of environmental reports, contractual documents, community and legal compliance requirements relating to the northern section and professional experience ensuring best practice. Environmental considerations have been taken into account during the design phase, including the incorporation of fauna underpasses, fauna exits in

fencing, a comprehensive revegetation strategy using endemic species of local provenance and fauna fencing in key locations.

Water Management

The Northern Section's Groundwater Operating Strategy contains a commitment to undertake monthly water use readings as cumulative readings and report these annually to the Department of Water and Environment Regulation (DWER). The requirement to follow the commitments within the Strategy have been inserted into the 5C abstraction licences for the northern section.

Weekly checks of flow meter functionality, dewatering treatment and disposal of dewatering effluent will be conducted through the Weekly Environment & Sustainability Inspection Checklist. The permit to dewater will also be used to control localised groundwater abstraction when excavating and installing drainage and structures.

Key water saving initiatives that will be implemented include:

- Design initiatives incorporated into the IFC design to reduce the fill material for construction of the project and thus reducing construction water and dust suppression requirements. This saving is approximately 605,982 m^3 of material, equating to approximately 184,219 kL less for construction water and 73,687 kL less for dust suppression (i.e. 257.9 ML, a saving of 14.5%).
- The intended construction program is such that in order to minimise dewatering requirements during bridge construction, piling and footing excavations will be timed to occur outside of the seasonal groundwater maximum. Dewatering during the minimum seasonal groundwater level versus the maximum seasonal groundwater level will lead to a water saving of 56.3% (i.e. 334 ML – 145.8 ML = 188.2 ML).
- Use of bored piling and only two footings each at the two bridges (BR1799 & BR1795) crossing the rail rather than all excavated footings. The original designs called for five footings at each bridge. As the bored piling construction method does not require dewatering, this will minimise dewatering at these two locations.
- Use of a pugmill and paver to lay the base course rather than the business as usual method of using graders and water carts. It is planned to use the pugmill and paver to pave the Road Train Assembly Area and 10 km of the mainline across four locations (near Warbrook Rd, Stock Rd, Neaves Rd and north of the first Ellen Brook crossing). The Responsible Engineer has estimated that this will provide a 43% saving in water use (approximately 1.8 ML)

Source	Year to 30 June	Total for Project
Water purchased from the scheme (kL)	1107.1	3,736
Water pumped from bores (kL)	213,397 301506.79 (from Contractor Monthly Report)	1,904,135
Water pumped from rivers, lakes or harvested in litres	0	0
Recycled or waste water use (kL)	203.7	678.68

Carbon Emissions & Energy

The Carbon Gauge Greenhouse Gas Calculator Tool for Road Projects has been used to model greenhouse gas (GHG) emissions for construction, operation and maintenance of the Northern Section at the Issued for Construction (IFC) design stage.

A comparison of the base case and IFC emissions is outlined below. Modelling indicates a reduction in GHG emissions, which is predominately associated with a reduction in fill material (impacting on construction) and a change in pavement types (impacting on maintenance). Refer to the table below.

The modelled reduction in GHG emissions is 21.6%

	Construction (t CO2-e)	**Operation (t CO2-e)**	**Maintenance (t CO2-e)**	**Total (t CO2-e)**
IFC	79,681	24,146	4,598	108,425
Base Case	92,555	24,499	21,266	138,230
GHG Savings	- 12,874	- 353	- 16,668	- 29,895
Comment on Savings	GHG savings predominately associated with a reduction in fill material and a reduction in clearing area, partially offset by increases from structures and road furniture.	GHG savings are from the RTAA adaptive LED lighting innovation	A drop in granular pavement with seal (high maintenance requirement) and an increase in two coat, spray seal (low maintenance requirement) between base case and IFC has significantly reduced the emissions from maintenance	

Source	**Year to 30 June**	**Total for Project**
Energy usage by source in mega joules	100% Diesel	100% Diesel
From fuel use (mj)	67,757,800	313,158.000
From electricity (mj)	0	0
Energy saved (mj)	NA	58,000 (modelled)

Materials & Recycling

Waste minimisation measures for construction are based on the waste hierarchy and are outlined within the Waste Management Plan. Measures to minimise waste during operation include:

- Avoidance/Reduce/Recycle – Use of crushed glass rather for temporary access roads and general fill, rather than virgin quarried material
- Reduce/Recycle – Use of a 20% reclaimed asphalt paving mix design for full thickness asphalt paving, rather than 100% virgin quarried material
- Reduce – Increasing the post spacing for wire rope barriers from 2.5 m to 3 m, thus reducing the amount of concrete and steel posts required

- Reduce – Anti-graffiti coating on concrete structures prevents excessive cleaning and resurfacing waste
- Reduce – Self-sustaining native revegetation preventing wastage of fertilisers, pots for replanting and other consumables associated with landscaping activities
- Reduce – Use of LED's at the road train assembly rather than standard halogen lamps, requiring less maintenance and replacement
- Reduce – The design of all major elements to meet MRWA's design life parameters for quality and durability, minimising replacement risk

The following targets for percentage of landfill diversion have been set for office and construction waste generated during the delivery of the northern section:

Waste Stream	**Target**	**Diversion**
Office waste	>25%	Recycle
Inert construction waste	>25%	Recycle
'Good' or better topsoil *	>95%	Reuse
Subsoil	>50%	Reuse
Spoil	>95%	Reuse
Waste oil	100%	Recycle

*Dependent on dieback and weed condition

Material and Waste Statistics

Imported Materials	**Year to 30 June**	**Total for Project**
Sand (t)	0	6,504,986
Gravel (t)	45,286	75,574
Limestone (t)	15,981	754,183
Crushed Rock (t)	255,447 72596 (from Contractor Monthly Reporting)	635,107
Aggregate (t)	53,018	62,354
Asphalt (t)	51,930	67,990
Concrete (t)	691	21,875
Steel (t)	5,222	5,303
Reinforced concrete (t)	1,800	21,300
Emulsion (t)	2,675,612 1744711 (from CMR)	2,958,459
Bitumen cutter (t)	0 646887.3 (from CMR)	950,625
Bitumen (t)	3,140,636	3,932,169
Other (t) (52mm ballast rock)	0	1799

Waste	Year to 30 June	Total for Project
Unsuitable fill moved offsite (t)	0	0
Landfill (t)	118.84	254.4
Sewage (t)	184,450	660,125
Concrete rubble (m^3) (recycled)	441.3	879.4
Pavement rubble (m^3)	0	0
Unsuitable material (m^3)	0	0
General/Green Waste (t)	0	0
Unsuitable fill used for rehabilitation purposes (t)	0	0
Recycled (t)	1,658.49	2,840.75

Imported recycled content	Year to 30 June	Total for Project
Sand (t)	0	0
Road Base (t)	0	0
Asphalt/Profiling (t)	20% RAP design approved	N/A
Steel (t)	0	0
Concrete (t)	0	0
Other (t) (crushed glass)	0	Approx. 70,000

Noise (from construction and future operation)

Measures to mitigate noise during construction and operation have been identified and implemented. The Construction Noise and Vibration Management Plan (CNVMP) outlines measures that are to be implemented during construction to mitigate against noise impacts. As outlined in the CNVMP, monitoring will be undertaken in response to complaints from the community, or targeted monitoring at noise sensitive premises in the vicinity of significant works (i.e. structures and interchanges) during out of hours works.

As outlined in the Condition Environmental Management Plan Amenity (Noise), prepared as a requirement of the project environmental approvals for the central and northern sections of NorthLink WA, pre-construction noise monitoring was undertaken to quantify current noise levels and to calibrate a noise model. Treatments will be installed at each property as specified in the property-specific noise mitigation package following receipt by MRWA of the record of resolution or agreement signed by the landowner and MRWA. The minimal noise mitigation package would include the implementation of treatments such as upgraded glazing, sealing of air gaps (doors and windows), ceiling insulation and mechanical ventilation.

Pollution

Discharges & Spills

There are no direct discharges to receiving waters on the northern section. However, groundwater dewatered from excavations has been pumped to nearby infiltration basins to allow it to percolate through the soil profile and back into the underlying aquifer.

Impacts on ground and surface water quality from construction and operation of the northern section were considered as part of the environmental approvals process. The Ministerial Statement, which grants environmental approval, required the preparation and implementation of a number of Condition Environmental Management Plans (CEMPs) to mitigate against impacts on various environmental values, including water quality. These CEMPs are approved by the Environmental Protection Authority.

No reportable spills have occurred on-site from 1 July 2019 to 30 June 2020.

Vibration

A Construction Noise and Vibration Management Plan has been prepared to manage potential vibration impacts from construction of the Project. In regard to vibration, this plan outlines:

- Equipment vibration levels and power attenuation approximation curves
- Vibration control measures
- Separation distances and monitoring

Monitoring has indicated that the limit was not exceeded at sensitive receptors from 1 July 2020 to 30 June 2020.

Light spill

Measures to prevent light spill during construction have been identified and implemented. As part of the weekly environment and sustainability checklist, construction light spill will be checked to ensure light spill from construction activities does not have the potential to cause glare or nuisance to sensitive receivers, luminaries aimed away from sensitive areas and are minimised/eliminated where possible.

Twenty sensitive light receptors have been identified, based on proximity to the alignment or construction compounds (within 400 m of the alignment boundary). A night time construction audit will be conducted, to identify any light spill from construction areas and its effect on these sensitive receptors. Additional steps have been taken to ensure temporary lighting is as unobtrusive as possible, including:

- Toolbox to key staff (Area Managers, Traffic Manager & Environment Team) on temporary lighting requirements

Economic Aspects Performance

At a glance

Economic Aspect	Year to 30 June	Total for Project
Funding	N/A	$176 million
No. of vehicles per day	N/A	N/A
Travel Time Saving	N/A	N/A
Increase of vehicle capacity	N/A	N/A
Workforce and Supply Chain		
Number of people employed by supply chain at various stages of project	N/A	N/A
Total number of suppliers engaged	280	468
Total number of Indigenous Enterprise	2	7

Total number of Disability Enterprise	Unrecorded to date.	Unrecorded to date.
Buy Local Spend (to date)	100% local	100% local

Key Economic Outcomes

Once all sections are completed, NorthLink WA will:

- provide a non-stop transport route between Morley and Muchea
- increase road capacity to improve journey times and productivity
- improve amenity in local communities by reducing congestion on local roads
- save lives by eliminating four of the State's most dangerous intersections
- improve amenity in the Swan Valley for residents and the 600,000 tourists who visit the area each year
- connect communities with 65 kilometres of 4 metre-wide shared path alongside Tonkin Highway from Guildford Road to Muchea, connecting with the greater Perth active transport network

NorthLink WA will take traffic off local roads and onto Tonkin Highway and provide an efficient alternative freight route, taking about 80 per cent of trucks away from Great Northern Highway.

The upgrade will bring significant savings in travel times, taking approximately 10 minutes off the trip time between Kewdale and Muchea. Road users will enjoy a non-stop journey, avoiding up to 16 sets of traffic lights and one level crossing between Kewdale and Muchea.

Sustainable Procurement and Buy local

CPB Contractors implemented an Industry Participation Plan (IPP) which is designed to provide a framework describing the management strategy that CPB Contractors will use to ensure the Western Australian (and Australian) industry receives full, fair and reasonable opportunity to participate in the design and construction of the project.

Following on from the WA Government's Building Local Industry Policy and Main Roads WA over-arching Industry Participation Plan, CPB Contractors will provide Western Australian companies with a full, fair and reasonable opportunity to tender for work on NorthLink WA northern section. Successful contractors and suppliers will be encouraged to follow through with the same principles when they subcontract work themselves. They will also be encouraged to use Western Australian labour, where possible.

CPB is committed to ensuring environmental aspects are considered in the procurement process. This is reflected in the CIMIC Group's Sustainability Policy, which can be found at:

https://www.cimic.com.au/__data/assets/pdf_file/0018/34128/Sustainability-Policy-June-2017.pdf

The project reports monthly on local procurement targets, which include 97 per cent local content (Western Australian) and 100 per cent Australian content.

Climate Change Assessments

A climate change risk assessment was undertaken for the northern section, which included the involvement of internal and external stakeholders (e.g. government and local community). Climate projection modelling was undertaken for the years 2030, 2050 and 2070, with the model outputting climate change projections for a range of selected variables per climate change year. Based on the identified risks, a range of adaptation measures have been adopted to mitigate against those risks. Three high climate change risks were identified for the northern section, they are;

1. Flooding (design ARI are too low)
2. Earthworks Erosion
3. Increased Maintenance of Soft Landscaping

Sustainable Transport

Upon project completion, the NorthLink WA northern section will provide a north-south linkage between Ellenbrook, Bullsbrook and Muchea, which will connect the project area to the Perth bicycle network. This will include linking those in residential areas with places of greater economic activity and employment, such as the Malaga and Kewdale industrial areas as well as the Perth CBD.

Social Aspects Performance

At a glance

Social Aspect	Year to 30 June	Total for Project
No. of complaints	215*	244
No. of traffic safety incidents within project boundary	7	21
% of women in workforce	9%	5.3%
% indigenous in workforce	2%	3.0%
LTIFR	1.27	1.27
No. of hours training during project	N/A	11,625
No. of development employees and apprentices on the project	25	91
No. of employees (FTEs) sourced from local community	805	3,010

**There is a high proportion of complaints in this financial year, due to the amount of complaints about loose stones and noise which resulted after the opening. Main Roads is working with those affected to ensure damaged vehicles are repaired.*

Social context

Community stakeholders for the project have been listed in Appendix 3.

Community & Stakeholder Engagement

NorthLink WA northern section is committed to ensuring community support throughout construction, providing timely responses to community concerns, keeping interested and impacted stakeholders engaged and informed and monitoring community perceptions through the media and direct liaison with the public.

These objectives form the basis of the Community and Stakeholder Engagement Management Plan, developed in conjunction with the Main Roads WA's Community Engagement Policy and the Western Australian Government's Sustainability and Citizenship Strategies. The plan also incorporates elements of the International Association of Public Participation (IAP2) community and stakeholder engagement spectrum for connecting, informing and engaging with the community and key stakeholders.

Addressing community concerns

NorthLink WA northern section convene Construction Reference Group meetings on a quarterly basis, providing an opportunity for the project team to share information on key topics, including construction updates, landscaping, urban design and the principle shared path. Members have the opportunity to influence the project, where possible.

Market research is conducted on a six monthly basis to assess and monitor the effectiveness of community and stakeholder engagement and communication strategies, as well as identify new avenues of engagement and areas of improvement. Themes commonly raised by the community include traffic delays due to construction, road design and environmental impacts.

The number of completed surveys obtained during the response period from late May to early July 2019 was:

- 100 completed telephone surveys – 30 from respondents within 2km of all elements of the project and a further 70 from between 2km and 10km from all elements of the project.
- 34 fully completed online surveys from members of the community.
- 6 completed surveys from members of the Construction Reference Group.

This is the third in a series of four survey tranches across the duration of the project.

Overall summary results were:

- 100% of survey respondents advised that they were aware of the NorthLink WA Northern Project (98.5% in December 2017 and 99.3% in September 2018). No respondents indicated that they were unaware in this survey period.
- 75.4% of current respondents had been aware of the project for more than 3 years (28.2% in December 2017 and 68.9% in September 2019).
- 98.5% were aware of the construction of the NorthLink WA northern road (an increase of 3.2% since 2017).
- The largest proportion of respondents learnt of the project through newsletters/flyers in the letterbox
- 83.6% of respondents were happy with the information they had received (a decrease of 0.1% since 2017), compared to 6.7% who were not happy (an increase of 0.5% since 2017).
- The largest proportion of respondents continued to prefer to receive information about the project via email (91.8% - an increase of 10.4% since 2017). Overall, 30.6% of respondents had been in touch with the NorthLink WA Northern Project Team (a decrease of 2.2% since 2017).
- 44.1% of respondents who had not been in touch with the Project Team were aware how to get in touch.
- On a scale between 1 and 5 (with 5 representing the highest level of agreement), the highest number of respondents rated their interaction as the team being friendly/polite (4.29 – a 0.02-point reduction since 2017) and accessible/easy to deal with (4.25 – a 0.06 point reduction since 2017).
- There was a reduction in belief that the Project Team had adequately addressed their issues or concerns in this survey period. 64.9% of respondents who had been in contact with the Project Team felt that they had adequately considered and addressed their issues or concerns
- Results from this survey period show an increased perception by respondents in the importance of the project.
- The largest proportion of respondents believed the key community benefit to be improved travel times (81.3% - a 2.9% increase from 2017).
- The largest proportion of respondents were aware of the shared path (60.4% - a 3.8% increase since September 2018), although it is noted that awareness was higher for respondents from the online survey (79.4%) as opposed to the random telephone survey (54.0%).

Heritage

Baseline studies and investigations with relevant local stakeholders were prepared for the Public Environment Review process. Following this process, relevant mitigation measures were incorporated to

protect heritage values within the Northern Section's Environmental Management Plan.

The heritage investigations were undertaken in five broad phases:

- A desktop assessment investigating the known and potential heritage constraints
- An ethnographic survey and consultations
- An archaeological survey
- European heritage investigations
- Preparation of heritage approval applications where required

To minimise heritage impacts during the construction period, heritage monitoring will be conducted (as a conditional requirement) in areas of significant Aboriginal heritage value within the northern section. These areas have been identified during the PER stage through heritage surveys. Areas of significance are required to be walked by both an Archaeologist and a Traditional Owner pre and post clearing to identify any potential items of cultural significance.

Further, northern section local heritage values are proposed to be incorporated into interpretative signage along the PSP, to take people on a journey to understand the Aboriginal culture and heritage, environmental and European settlement elements in each area.

A heritage consultant was engaged to consult with a reference group to lead the consultation for the heritage trail signs. A pamphlet was produced, called the Yarkin Challenge, which is the name of the trail. There are 13 locations proposed with a variety of signs (plinths, shelters or double-sided standing ones) along the alignment. Each sign will have content relevant for that area, agreed with the reference group members. The final design will be decided by MRWA.

Road Safety

Road safety will be improved through the construction of a grade separated, free-flowing dual carriageway. Lighting will be provided at key interchanges and network users will benefit from faster travel times. Consideration for oversize loads has been incorporated into the design with the inclusion of a road train assembly area into the ultimate design.

Traffic Management

Throughout the design, construction and operation phases of the project, road safety audits in accordance with Austroads' Guide to Road Safety – Part 6: Road Safety Audit will be undertaken.

A compressive traffic management design, approval, implementation and review process is in place which ensures all road users safety while maintaining traffic flow at acceptable level of service.

To date, the northern section has achieved the goal of zero accidents in regard to implemented traffic management.

Workforce Safety

Workforce Safety is supported by CPB's AS/NZS 4801 certified Health & Safety Management System. The project undertakes all construction activities in accordance with CPB Contractors' safety essentials providing rules, tools and knowledge to manage the areas of project activity that pose the greatest risk. The safety essentials focus on implementing engineering controls, or above, to key project risks. The safety essentials include:

- working at heights
- working in and around mobile plant
- working with temporary works
- working with live services

- working near live traffic
- mobile cranes and lifting operations
- electrical work

One LTI was recorded within the reporting period. On 7/04/2020 - an operator of a combination multi-tyre smooth drum roller was in the process of parking behind a stationary light vehicle after having completed some minor repair works to an on ramp. During this process, the roller has failed to stop and has contacted the light vehicle and the legs of a worker who was sitting on its tailgate. The worker received a laceration to the back of his right leg. The worker was treated at the scene before being transported to hospital for treatment.

Appendix 1 - List of Protected Areas Project interfaces with:

- Tumulus Mound Springs
- Bush Forever Sites 97 and 100
- Conservation Category Wetland 8773, 8798, 8800, 8909, 8910, 8911 and 8926
- Newly Identified Aboriginal Site NL 14-01
- Registered Aboriginal Sites DAA 21620 Chandala Brook and DAA 3525 Ellen Brook: Upper Swan

Appendix 2 - Protected fauna and flora species and habitat

Flora

- *Darwinia foetida*
- *Grevillea curviloba subsp. incurva*

Fauna

- Carnaby's Black Cockatoo (*Calyptorhynchus latirostiris*)
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*)
- Australian Bustard *(Ardeotis australis)*
- Southern Brown Bandicoot (*Isoodon obesulus fuscivebter*)
- Great Egret (*Ardea modesta*)
- Cattle Egret *(Ardea ibis)*
- Rainbow Bee-eater *(Merops ornatus)*
- Jewelled Sandplain Ctenotus *(Ctenotus gemmula)*
- Black-striped Snake *(Neelaps calonotos)*
- Western Brush Wallaby *(Macropus irma)*

Appendix 3 – List of Stakeholders to the project

Federal Government

- Department of Defence
- Department of Environment

State Government Departments and Agencies

- Department of Water and Environment Regulation
- Department of Biodiversity, Conservation & Attractions
- Department of Transport
- Department of Premier and Cabinet
- Main Roads Western Australia
- Main Roads Customer Information Centre
- WA Police

State Elected Representatives

- Hon Rita Saffioti MLA Minister for Transport; Planning and Lands
- Hon Jessica Shaw, MLA – Member for Swan Hills
- Hon Shane Love, MLA – Member for Moore

Local Government Authorities

- City of Swan
- Shire of Chittering
- Shire of Gingin
- Chittering Chamber of Commerce

Public Utility Providers/Services

- Western Power
- Telstra

Leisure/Recreation

- Cycle and Pedestrian Advisory Group
- PSP users

Community

- Members of the Construction Reference Group
- Bullsbrook Residents and Ratepayer Association

Local residents

- All residents along the alignment

Local businesses/schools

- Muchea IGA
- Landcorp
- Bullsbrook Shops
- Bullsbrook College

Wider community and surrounding suburbs

- Surrounding suburbs including Bullsbrook, Muchea, Ellenbrook, Pinjar, Chittering and Lower Chittering

Road users

- Local road users
- Freight and heavy vehicle users
- Taxi and public transport
- Cyclists and other active transport network users